

AMENDMENTS TO THE CLAIMS

- 1-6. (canceled)
7. (currently amended) A composition containing a labile disulfide bond for inserting into an organism formed by the process comprising:
- a) forming a compound comprising a disulfide bond and at least one electron withdrawing group wherein the disulfide bond is located between at least two reactive groups and wherein the at least one electron withdrawing group is different from the at least two reactive groups; and,
 - b) forming covalent bonds with separate molecules on each side of the disulfide bond via the reactive groups, wherein the electron withdrawing group facilitates cleavage of the disulfide bond such that the disulfide bond is cleaved more rapidly than oxidized glutathione and wherein cleavage of the disulfide bond results in the formation of two molecules.
8. (previously presented) The composition of claim 7 wherein the composition is amphipathic.
9. (previously presented) The composition of claim 7 wherein the composition comprises a polymer.
10. (previously presented) The composition of claim 7 wherein the composition is selected from the group consisting of a polycation, a polyanion, a neutral polymer, and an amphipathic polymer.
11. (previously presented) The composition of claim 7 wherein the composition contains a ligand.
- 12-18. (canceled)
19. (currently amended) A composition containing a labile disulfide bond for inserting into an organism formed by the process comprising:
- a) forming a compound containing a disulfide bond and at least one electron withdrawing group wherein the disulfide bond is located between at least two reactive groups and wherein the at least one electron withdrawing group is different from the at least two reactive groups; and,
 - b) forming covalent bonds with separate molecules on each side of the disulfide bond via the reactive groups, wherein the electron withdrawing group reduces the pKa of at least one

of the constituent thiols of the disulfide bond to less than glutathione thiol pKa and wherein cleavage of the disulfide bond results in the formation of two molecules.

20. (previously presented) The composition of claim 19 wherein the composition is amphipathic.

21. (previously presented) The composition of claim 19 wherein the composition comprises a polymer.

22. (previously presented) The composition of claim 21 wherein the polymer is selected from the group consisting of a polycation, a polyanion, a neutral polymer, and an amphipathic polymer.

23. (previously presented) The composition of claim 19 wherein the composition contains a ligand.

24-28. (canceled)

AMENDMENTS TO THE CLAIMS

In the claims, please cancel claim 21 and amend claim 1 as follows:

1. (currently amended) A complex for delivering a nucleic acid to a mammalian cell comprising: said nucleic acid reversibly compacted by a polymer, said polymer comprising more than two labile disulfide bonded monomers, to form said complex wherein said polymer contains labile disulfide monomers ~~selected from the group consisting of a~~ containing disulfide bonds constructed from thiols in which at least one of the constituent thiols has a lower thiol pKa than glutathione thiol pKa when measured under the same conditions.
2. (canceled)
3. (previously presented) The polymer of claim 1 wherein the polymer is selected from the group consisting of a polycation, a polyanion, a neutral polymer and an amphipathic polymer.
- 4.-5. (canceled)
6. (previously presented) The polymer of claim 1 wherein the polymer contains a ligand.
7. (previously presented) A physiologically labile polymer for condensing nucleic acid comprising: three or more monomers linked via labile disulfide bonds that are cleavable by reduced glutathione more rapidly than the disulfide bond of oxidized glutathione when measured under the same conditions, wherein said polymer condenses said nucleic acid more strongly than said monomers.
8. (previously presented) The polymer of claim 7 wherein said labile disulfide bonds are constructed from thiols in which at least one of the constituent thiols has a lower thiol pKa than glutathione thiol pKa when measured under the same conditions.
9. (canceled)
10. (previously presented) The polymer of claim 7 wherein the polymer is selected from the group consisting of a polycation, a polyanion, a neutral polymer, and an amphipathic polymer.
11. (previously presented) The polymer of claim 7 wherein the polymer contains a ligand.
- 12-18. (canceled)
19. (previously presented) The polymer of claim 7 wherein said labile disulfide bonds are cleaved by intramolecular attack from a free thiol.
20. (previously presented) The complex of claim 1 wherein said complex is less than 100 nm in size.
21. (canceled)